

## Claims

- [c1] What is claimed is:
1. An object-oriented controller in which abstraction is accomplished by the incusion of interfaces between the hardware, software and network elements , the controller comprising: a. Hardware with with a processing means using an operative system that runs an application, said application made of a plurality of micro-objects from a micro-object library, a memory means, an Input/Output means and a communication means; b. a Monitoring Graphics User Interface interfacing to a plurality of hardware through said hardware"s application; and c. a network adapter that receives from and sends data to a plurality of hardware through said hardware"s communication means. 2. ~~The~~ controller of claim 1 wherein the communication from the hardware to the network adapter consists of a send and receive function.
- [c2] 3. The controller of claim 1 wherein the communication from the hardware to the network adapter consists of a send and receive function with a logical ID being assigned to each hardware and the send function using four parameters;
- Service, whether an acknowledgement is needed;
- Destination hardware;
- Source hardware; and
- Length, which is the length of the data packet to be communicated.
- [c3] 4. The controller of claim 1 wherein the Monitoring Graphics User Interface is used to download the application to the hardware.
- [c4] 5. The controller of claim 1 wherein the Monitoring Graphics User Interface is contained on a computing means.
- [c5] 6. The controller of claim 1 wherein the Monitoring Graphics User Interface is contained on a computing means and interfaces to a plurlarity of hardware through the Network Adapter.

[c6] 7 The controller of claim 1 wherein the Network Adapter contains a mapping means to map a Destination address with the corresponding logic and hardware address.

[c7] 8. The controller of claim 1 wherein the micro-object library is created with a plurality of micro-objects each with each own methods and capabilities.

[c8] 9. The controller of claim 1 wherein when changing hardware, a new set of micro-objects for the new hardware will be used that will contain methods and data structure analogue to the old set of micro-objects used by the old hardware.

[c9] 10. A method for an object-oriented controller comprising the step of : a. Using a Hardware means with with a processing means using an operative system that runs an application, said application made of a plurity of micro-objects from a micro-object library, a memory means, an Input/Output means and a communication means; b. Using a Monitoring Graphics User Interface for interfacing to a plurality of hardware through said hardware"s application; and c. Using a network adapter that receives from and sends data to a plurality of hardware through said hardware"s communication means. 12. The method of claim 10 wherein the communication from the hardware to the network adapter consists of a send and receive function.

[c10] 13. The method of claim 10 wherein the communication from the hardware to the network adapter consists of a send and receive function with a logical ID being assigned to each hardware and the send function using four parameters;  
Service, whether an acknowledgement is needed;  
Destination hardware;  
Source hardware; and  
Length, which is the length of the data packet to be communicated.

[c11] 14. The method of claim 10 whichi includes using the Monitoring Graphics User Interface to download the application to the hardware

- 10 15. The method of claim 10 which includes containing the Monitoring Graphics User Interface on a computing means.
- [c12] 16. The method of claim 10 includes containing the Monitoring Graphics User Interface on a computing means and interfacing to a plurality of hardware through the Network Adapter.
- [c13] 17 The method of claim 10 which includes having the Network Adapter contain a mapping means to map a Destination address with the corresponding logic and hardware address.
- [c14] 18. The method of claim 10 which includes creating the micro-object library with a plurality of micro-objects each with each own methods and capabilities.
- [c15] 19. The method of claim 10 wherein when changing hardware, a new set of micro-objects for the new hardware will be used that will contain methods and data structure analogue to the old set of micro-objects used by the old hardware.